Pembroke District Fisheries Management Plan

1986-2000

Ontario

Ministry of Natural Resources

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Minister

Pembroke District Fisheries Management Plan

1986-2000

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FOREWORD

The overall fisheries goal for the Ministry of Natural Resources is to protect, rehabilitate, enhance and maintain fish communities and their environment to provide an optimum contribution of fish, fishing opportunities and associated social and economic benefits to the people of Ontario.

To this end, Pembroke District has prepared this Fisheries Management Plan containing resource information and corresponding management strategies and tactics necessary to provide both long-term (1987-2000) and short-term direction (specific actions to be implemented within an initial five year period) for the management of fisheries resources within Pembroke District.

This Plan incorporates the direction of Land Use Guidelines, the information contained in the District's Background and Optional Management Strategies and Tactics document, comments from internal Ministry review as well as public response to background documents and the Draft Plan.

Aboriginal rights are not addressed as such in this Plan due to the fact that they are presently under negotiation. If and when fishing agreements are reached they will be addressed in the future implementation of this Plan in accordance with provincial policy.

Finalizing this Plan will benefit both the public and natural resource managers by providing guidelines through which protection of fisheries resources within Pembroke District will be balanced with the wise utilization of those same resources.

Regional Director
Algonquin Region

District Manager
Pembroke District

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1.0 INTRODUCTION

1.1 Purpose

The purpose of this Management Plan is to identify the long-term management direction (to the year 2000) and to outline the specific short-term actions to be carried out within the first five year period. The Plan will be amended every five years by developing new Five Year Implementation Schedules and by revising aspects of the Plan that become outdated.

Annual work plans, identifying the specific projects to be undertaken during each year of the initial five year period, will be prepared and submitted for funding approval prior to the beginning of each fiscal year. The completion of projects identified in each annual work plan submission will depend on the funds allocated to the District.

This Plan applies to the 781,100 hectares of land and water (64,000 hectares of the total) of Renfrew County under the administration of the Ministry of Natural Resources. This Plan does not include or apply to the 38,800 hectares of land governed by the Department of National Defence, Ontario Hydro, and the Golden Lake Indian Reserve.

1.2 Planning Process

This Fisheries Management Plan was prepared in accordance with the overall resource planning and management system of the Ministry of Natural Resources.

Policy direction to the District Fisheries Management Plan was provided through the following sources:

- **Southern Ontario Co-ordinated Program Strategy** which provided general policies, targets and guidelines for resource management in Southern Ontario;

- **Pembroke District Land Use Guidelines (DLUG)** which applied to provincial policies to the district, therein developing guidelines, objectives and strategies for fisheries and other resource management programs at the district level; and

- **Strategic Planning for Ontario Fisheries (SPOF)** documents which provided a generalized policy framework, management principles, goals and objectives for managing fisheries resources in Ontario.

Development of the Plan then involved the preparation of background information, the identification of problems and issues, the development and evaluation of a range of optional management strategies, the selection of preferred management strategies and the writing of Draft and Final Management Plans.

Background documents which were prepared leading to the development of this Plan are as follows:

- **Terms of Reference** - identified the general direction and timetable to be followed toward the completion of each stage of the planning process;

- **Background Information (Resource Inventory and Analysis and Identification and Evaluation of Management Options)** - provided a

comprehensive analysis of available resource information related to local fisheries;

- **Background Information and Options: A Summary** - enabled the public to review and provide input on optional management strategies and tactics as identified by Ministry staff; and

- **A Summary of Public Response to the Background Information and Optional Management Strategies and Tactics Document and the Draft Fisheries Management Plan for Pembroke District** - provided a summary of public concerns, their views on identified management strategies and tactics, and their perceptions of fisheries problems and of how local fisheries resources should be managed.

This Plan also recognized the Ministry's overall commitment to integrated resource management. In accordance with this commitment, comments on potential interactions between fisheries and other resource programs were solicited from Ministry staff, local interest groups and the general public. Comments and concerns identified by these groups were addressed in the development of this Plan. Overall, the public showed strong support for the strategies and tactics proposed for implementation within Pembroke District (Appendix 3).

2.0 DISTRICT FISHERIES PERSPECTIVE

2.1 District Physiography

Pembroke District, one of six districts in the Algonquin Region, encompasses the County of Renfrew in its entirety (see Figure 2).

Topography within the district ranges from smooth to rolling valley lands in the east where agricultural activities predominate (Ottawa Lowlands) to moderately and strongly broken forested uplands in the west (Precambrian Upland). The lowlands are chiefly underlain by clays, while sand and gravel deposits are found in the "handle" northwest of Pembroke. Scattered tracts of similar materials are found in Richards, Hagarty, and Sherwood Townships and along the chain of lakes within the Bonnechere Valley. The upland areas of the district, constituting over 65% of the total area, are composed of hummocky, rock knobbed landscapes, typical of the Precambrian Shield, interspersed with varying sized lake basins.

With the exception of small portions of the Mississippi and the Little Mississippi River watersheds, Pembroke District is drained by rivers flowing directly into the Ottawa River to the east. In total, seven major rivers flow into the Ottawa River, the largest ones being the Madawaska and Bonnechere Rivers.

2.2 The Resource

Recognizing that the district lies within two physiographic regions, Pembroke District has lakes which support both coldwater and warmwater fisheries.

Warmwater lakes are generally scattered throughout the district. It is estimated that approximately 35% of all warmwater lakes contain northern pike while approximately 50% contain smallmouth or largemouth bass. The district also supports a number of walleye fisheries, including those in Round Lake, Golden Lake, Calabogie Lake, Little Madawaska, Centennial Lake and in the Ottawa and Madawaska Rivers.

Coldwater species are primarily found in the highland areas of the district, in a belt running northeast from Calabogie Lake along the Mt. St. Patrick, Opeongo and Wilno ridges. A number of coldwater fisheries are also located in Head, Clara and Maria Townships, most of which are maintained by stocking programs for salmonids.

Warmwater and coldwater fishery locations and spawning areas are displayed on Figure 3 and inserted inside the back cover of this document.

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(1) Coldwater fish include: lake trout, rainbow trout, brook trout, splake, whitefish and lake herring.

Warmwater fish include: northern pike, walleye, smallmouth bass, largemouth bass, and muskellunge.

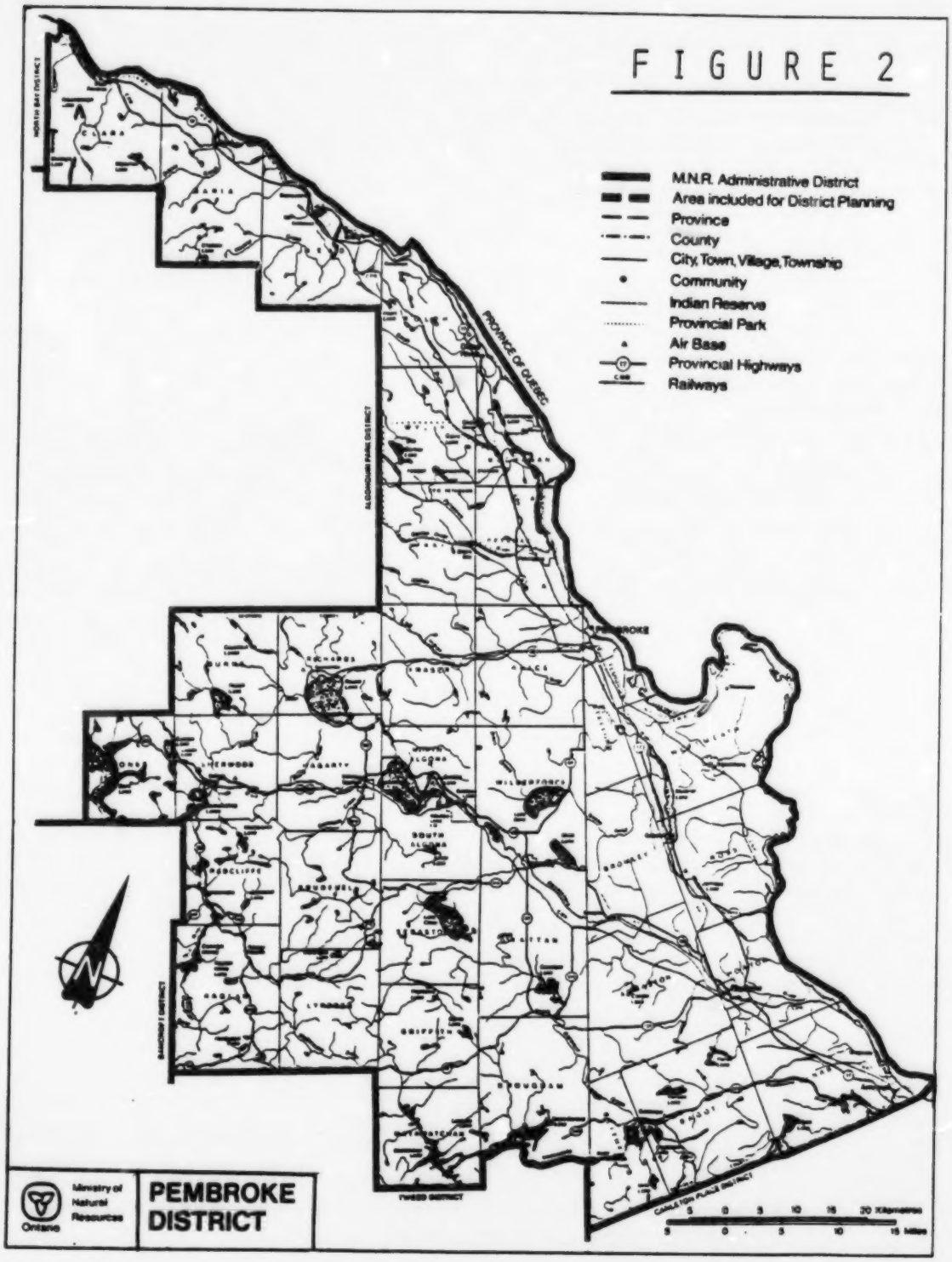
FIGURE 2
M.N.R. Administrative District
Area included for District Planning
Province
County
City, Town, Village, Township
Community
Indian Reserve
Provincial Park
Air Base
Provincial Highways
Railways
PROVINCE OF QUEBEC
PEMBROKE
Ministry of Natural Resources
Ontario
PEMBROKE DISTRICT

2.3 Resource Use and Projections

Sport Fish

Based on the 1980 Provincial Angler Survey an estimated 90,800 adult anglers exerted some 1,194,000 angler days of fishing effort in Pembroke District. Of this total, 675,804 were angling opportunities for sport fish. Projected demand to the year 2000 suggests a 15% increase in both the number of anglers and associated angling opportunities. Based on these assumptions, user demand is expected to increase to 832,175 angling opportunities with an expected harvest of 385,704 kilograms of fish (see Table 1).

Although the Provincial Angler Survey identifies a significant utilization of pan/coarse fish[3], the District does not intend to direct management efforts to this resource, despite its recognized value as being able to provide recreational angling experiences. Management efforts will instead concentrate on providing quality coldwater and warmwater sport fishing opportunities.

As indicated in Table 1, coldwater and warmwater resources should be capable of providing 925,070 angling opportunities (438,340 kilograms/year) by the year 2000. In comparison, user demand is expected to reach 832,175 angling opportunities (385,704 kilograms/year) by the year 2000.

Future demand is expected to be met provided none of the existing coldwater and warmwater fishery resources or habitats are lost. Management direction must ensure ongoing improvement and protection of existing and future stocks and habitat.

Commercial Fish

Commercial fishing interest in the past has been minimal. Only two licences for harvesting sturgeon and catfish in the Ottawa River have been issued since 1977.

While sturgeon stocks do not appear to be able to support a viable commercial fishery, potential does exist for the commercial harvest of catfish.

Bait Fish

There are currently 60 licenced bait fish harvesters and 69 establishments licenced to sell bait fish within Pembroke District. Annual returns indicate fluctuations in harvest of between 50,000 and 75,000 dozen bait fish, with an estimated gross value of between $45,000 and $81,000.

Existing information suggests that efforts in managing bait fish resources may be limited to maintaining current production levels. User projections indicate, however, that the bait fish industry will experience slowly

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(2) 80,500 resident, 10,300 non-resident

(3) Pan/Coarse fish include: yellow perch, rock bass, pumpkinseed, common white sucker, brown bullhead, catfish, smelt, etc.

TABLE 1
RESOURCE USE AND PROJECTIONS

Resource	Current Demand[3]		Projected Demand[4]		Resource Capability[6]		Target	
	Opportunities	Harvest (kg)	Opportunities	Harvest (kg)	Opportunities	Harvest (kg)	Opportunities	Harvest (kg)
Coldwater[1]	84,774	16,955	97,490	19,498	80,650	16,130	97,490	19,498
Warmwater[2]	591,030	295,515	679,685	339,842	844,420	422,210	679,685	339,842
			777,175	359,340			777,175	359,340
			55,000[5]	26,364[5]			55,000[5]	26,364[5]
Total	675,804	312,470	832,175	385,704	925,070	438,340	832,175	385,704

[1] Coldwater fish include: lake trout, brook trout, rainbow trout, splake, whitefish, herring.

[2] Warmwater fish include: walleye, northern pike, muskellunge, smallmouth bass, largemouth bass.

[3] Current demand figures (based on 1980 Provincial Angler Survey) do not include Head, Clara and Maria Townships, but do include residents and non-residents. Harvests determined from provincial standards of 0.2 kg./opportunity for coldwater and 0.5 kg./opportunity for warmwater fish.

[4] Based on current demand plus 15% increase.

[5] Head, Clara and Maria Townships now included in projected figures (from District Land Use Guidelines).

[6] Based on Morphoedaphic Index - Allowable Yield calculations and a provincial quality standard of 0.2 kg./opportunity for coldwater and 0.5 kg./opportunity for warmwater fish. This figure includes Head, Clara and Maria Townships.

increasing demands resulting from increased demands by sport fishery users.

2.4 Other Resource Concerns

As part of the integrated management process within Pembroke District, all work plans (e.g. road construction, access points, etc.) which may cause major environmental impacts are to be reviewed and approved by the District Management Committee. During this review, input from all program services, as to potential impacts of proposed projects on their programs, is considered. The ultimate success of this Plan is felt to depend, in part, on the input and co-operation of this Committee.

2.5 Problems and Issues

In managing the fisheries resource within the District to meet anticipated demands, there are a number of problems which must be addressed. Co-operation between resource managers and users in addressing these problems will ultimately determine the District's ability to meet assigned targets.

Based on public response to earlier background documents, the priorization and assessment of problems and issues affecting district fisheries has been amended to the following:

1. Habitat Loss and/or Loss of Environmental Quality; Creating New Fisheries Habitat

Habitat loss or degradation of water quality have resulted from a number of causes including shoreline development, nutrient enrichment, some agricultural practices, chemical or mechanical control of aquatic weeds, beaver activity, water drawdowns, acid precipitation or contaminants. Many of the warmwater fisheries require rehabilitation of spawning and fry nursery areas. Failure to take appropriate action will affect the District's ability to meet its fishery target.

2. Limited Coldwater Habitat/Producing a Coldwater Fishery to Accommodate All Users

There is a limited amount of coldwater habitat in the district to support the salmonid fishery. The existing coldwater fishery suffers heavily from angling pressure (legal and illegal), particularly during the winter months. As a result, over-exploitation occurs where the harvest exceeds the capability of the natural resource to meet demand. At present, extensive stocking of hatchery fish contributes significantly to the number of trout fishing opportunities in the District.

Some potential exists for the creation of more artificial fisheries within underutilized waters, however, the actual availability of suitable waters is strictly limited.

As a result, anglers may have to either reduce angling pressure, redirect that effort to another species (e.g. bass, pike, panfish), or to accept a lower rate of success.

3. Illegal Harvest

The illegal harvest of fish has severe effects on fish populations, both natural and stocked, resulting in the loss of legitimate fishing opportunities. Warmwater spawning

runs are most heavily impacted by the spearing and netting of spawning fish. Stocked, slow growing salmonids such as lake trout, are taken by set lines during the winter months (e.g. Round, Kamaniskeg Lakes). Lake trout are also taken illegally from lakes (e.g. Muskrat) before and after the two week winter season. Over limit catches also reduce legal opportunities and place additional stress on the sport fish community.

4. Lack of Public Awareness and Unrealistic Resource Demands

Many members of the public are unaware of the basic concepts of fisheries ecology and management. To a degree this has been caused by the lack of effective fisheries education, information and public involvement programs in the District. For example, this is evidenced in their unrealistic expections of the benefits to be derived from stocking as opposed to those derived from the rehabilitation of natural fisheries.

It is therefore important that the potential of the resource be clearly defined, that the public be made aware of its limitations and that the resource be managed in a realistic manner in meeting short-term and long-term needs.

5. Limited Access

Limited access to some areas of the district has an important impact on the number of available angling opportunities. Problems arise when access to public waters is restricted by gates on roads erected by private individuals to protect private properties (e.g. Garvin Lake, Mt. St. Patrick area), by a shortage of boat launching facilities on some of the larger rivers (e.g. Ottawa), or by military boundaries (e.g. Centre Lake). This results in the loss of opportunities required to meet angler demand.

6. User Conflicts

Although the District does not face a commercial food fishery versus sport fishery conflict, friction does exist among the multiple users of the water resource. Anglers and other recreational users conflict, while bait harvesters may come into conflict with both groups.

The possibility of future conflicts also exists between winter and summer users of the resource (i.e. regulation of winter or summer fishery to protect stocks). Should the winter fishery be closed at the expense of local interests or should the summer season be shortened (i.e. later opening date affecting seasonal residents and the tourist industry)?

Numerous land and water uses may also pose detrimental impacts on fisheries resources. These include surface drainage, agricultural land use, industrial activities, hydro activities and timber harvesting, to name a few. In addition, conflicts often exist between short-term economic interests and the long-term maintenance and welfare of the fisheries resource.

The end result may be the possible shift or loss of angling opportunities, which in turn affects the District's ability to meet resource objectives.

7. Inadequate Scientific Knowledge

Fisheries managers are hampered by the lack of available scientific knowledge regarding the many

complex interactions present within the delicate aquatic ecosystem of a lake. The lack of sufficient data for recreational fisheries and bait fisheries in such areas as productivity assessment (allowable yields) and fish community interactions limits the effectiveness of some of the decisions required to manage these resources.

8. Introduction of Non-Native Species

Introductions of non-native fish species into district waterbodies, whether accidentally or intentionally, have led to the loss of quality fishing opportunities. These introductions have occurred without the knowledge of Ministry staff and/or without the required permission of the Ministry of Natural Resources. This is evidenced where warmwater species have been introduced into small coldwater lakes resulting in a corresponding loss of coldwater fishing opportunities.

For example, the introduction of yellow perch, rock bass and pumpkinseed into small coldwater lakes (e.g. Rock Lake-Lyndoch Township; Acorn Lake-Richards Township; Flat Iron Lake-Fraser Township; Garvin Lake-Grattan Township) has resulted in the loss of brook trout populations. Secondly, the introduction of smelt into Bark and Kamaniskeg Lakes appears to have had a detrimental effect on lake trout fisheries and has probably caused the loss of the whitefish population.

3.0 MANAGEMENT DIRECTION

3.1 General Fisheries Management Objectives

Development of District fisheries management programs must be compatible with the overall goals, objectives and policy directives of the Ministry of Natural Resources. To provide direction in the management of the Province's natural resources, the Ministry established the following long-term goal:

- .to provide opportunities for outdoor recreation and resource development for the continuous social and economic benefit of the people of Ontario and to administer and conserve public lands and waters.

In refining this provincial directive for application to fisheries management activities within southern Ontario, the following objective was established:

- .to provide opportunities for recreation and economic benefits consistent with the maintenance of healthy fish communities.

During the formulation of the District Land Use Guidelines for Pembroke District, the following more specific fisheries management program objectives were established:

- .to meet sport fish demands within the limits of a wisely managed and rehabilitated resource;
- .to maintain a viable commercial industry;
- .to maintain current bait fish production; and
- .to prevent the extinction of any native fish species.

As a result of public consultation and the collation and analysis of updated fisheries resource data, modification to the program targets identified in the District Land Use Guidelines was considered to be warranted.

During formulation of the District Land Use Guidelines, pan/coarse fish resources were included in the calculation of warmwater fisheries targets for the District. Based on information generated through the planning process and present knowledge of the resource base, the District will be amending its management philosophy, selecting a management direction which will concentrate on the coldwater and warmwater components (excluding pan/coarse fish) of its fisheries resource base. Although management efforts will not be specifically directed toward pan/coarse fish, the significant number of fishing opportunities generated by pan/coarse fish is recognized.

Selected strategies and tactics identified in this Plan deal primarily with the creation, protection and maintenance of new coldwater fisheries, where possible, and the protection, and maintenance of and continued accessibility to existing warmwater fisheries. Strategies and tactics to be implemented in the first five year period (1987-1991) are presented in the Implementation Schedule (Table 3; and Figures 4 and 5 inside the back cover) with implementation ultimately being dependent upon the allocation of sufficient funding and manpower.

3.2 Specific Fisheries Management Objectives, Targets and Strategies

Objectives and targets for each specific fisheries group (sport, commercial and bait) originated from the District Land Use Guidelines. As a result of public consultation and updated computations derived from background information analyses, the District Land Use Guideline targets have been refined.

3.2.1 Sport Fisheries Management

Objective

To meet the demand within the limits of a wisely managed and rehabilitated resource.

Targets

The recreational fishing target for Pembroke District, as indicated in the District Land Use Guidelines, was to provide 1,310,000 angling opportunities annually by the year 2000. Analyses of background resource information now indicates that by the year 2000 demand will total 832,175 opportunities.

Recognizing that the District will now be directing its management efforts to coldwater and warmwater sport fisheries resources, it is anticipated that these resources will be capable of providing a total of 925,070 angling opportunities by the year 2000. This will be accomplished through the creation of new coldwater and warmwater fisheries, the protection, improvement and management of existing coldwater and warmwater fisheries, and/or an adjustment in fishing success rates.

Public consultation, in combination with analyses undertaken during the preparation of this Plan, indicated that the DLUG targets needed to be changed to reflect the selected change in management direction within the District. As a result of this re-evaluation, the sport fish target for coldwater and warmwater fisheries is:

> .to provide 832,175 angling opportunities resulting in a harvest of 385,704 kilograms of sport fish by the year 2000.

Discussion

Coldwater fish species provide only a small portion of existing and potential fishery resources available within Pembroke District. Waters lying on the edge of the Precambrian Shield do not provide adequate spawning areas for coldwater species, thus the fishery is almost completely dependent upon stocked fish. The continued preservation of the coldwater fishery will therefore depend not only on our ability to supply viable strains of lake trout, brook trout, rainbow trout and splake but to maintain existing waters and to search out new waters to be managed for coldwater production.

Warmwater fisheries currently provide the largest portion of existing and potential fishery resources in Pembroke District. Larger lakes such as Golden Lake, Centennial Lake, Calabogie Lake and Madawaska Lake provide good fisheries. Adult transfers and fingerling stockings through CFIP programs will increase sport fish production in many underproducing lakes.

The pan/coarse fish resource provides significant angling opportunities for young and old alike. At present, both resident and non-resident fishing efforts are directed mainly toward perch, smelt, rock bass, common white sucker and brown bullheads. As a food source, many waterbodies (e.g. Muskrat, Calabogie Lakes) are utilized each spring to provide suckers and bullheads.

Fisheries within the district also contribute to the economy of the local tourist industry. During the summer months, many non-local fishermen are attracted to the area resulting in a significant increase of additional revenue to the County.

Strategies and Tactics

The most important element of the planning process is the identification, assessment, and selection of fisheries management strategies and related tactics to attain the targets.

Strategies are the planned actions to resolve problems, while the tactics are the individual management projects that may be undertaken to implement a particular strategy.

The following management strategies and tactics have been selected to address the problems and issues previously mentioned. All strategies and tactics are designed to meet the fisheries objectives and targets.

Problem/Issue #1: Habitat Loss and/or Loss of Environmental Quality; Creating New Fisheries Habitat

Strategy - Protect Fisheries Habitat

Tactics

-Identify important spawning and nursery areas for both coldwater and warmwater species
-Review and comment on public and private development proposals in areas immediately adjacent to spawning and nursery areas for both coldwater and warmwater species

Strategy - Rehabilitate Degraded Habitat

Tactics

-Initiate Ministry projects to rehabilitate spawning areas
-Support CFIP projects by interest groups which rehabilitate and enhance spawning and nursery areas in major fisheries
-Rehabilitate lake trout spawning shoals

Strategy - Create New Fisheries Habitat

Tactics

-Reclaim small lakes with the potential for brook trout habitat through the use of piscicides

-Create and enlarge warmwater spawning areas by the addition of suitable materials into optimum fast water (walleye habitat)
-Clean out coldwater streams and add deflectors, hides and suitable spawning materials for trout species

Strategy - Monitor Fish Contaminants

Tactics

-Monitor the contaminant levels of sport fish in selected lakes using prescribed techniques in conjunction with the Ministry of the Environment

Problem/Issue #2: Limited Coldwater Habitat/Producing a Coldwater Fishery to Accommodate All Users

Strategy - Protect Lake Trout Fisheries in the District and Evaluate Their Suitability

Tactics

-Protect lake trout lakes which still maintain the biological and chemical characteristics required to provide a viable lake trout fishery
-Protect viable lake trout fisheries in the district (e.g. Bark Lake, Kamaniskeg Lake, Burns Lake, Charlotte Lake, Diamond Lake). Convert those which are not viable lake trout fisheries to other more suitable coldwater fisheries such as rainbow trout or splake
-Rehabilitate and improve spawning habitat in coldwater lakes

Strategy - Reduce Angling Pressure on Lake Trout Populations

Tactics

-Regulate season length
-Encourage the shifting of angling pressure to other species such as walleye, pike, muskellunge and bass
-Create new fisheries in areas adjacent to lake trout fisheries
-Stock suitable coldwater lakes with splake or rainbow trout as an alternative to lake trout

Strategy - Regulate Harvest in Extreme Cases

Tactics

-Consider regulating the equipment used, applying daily catch limits, implementing winter closings or introducing size limits on lakes which experience extreme fishing pressure (e.g. Burns Lake)

Strategy - Fish Stocking

Tactics

-Assess existing stocking program
-Add or delete specific waterbodies from stocking program lists (i.e. update annually) depending on results of stocking assessment studies
-Maintain current level and frequency of stocking on an alternate year basis
-Stock selected lakes on an annual or rotational basis depending on accessibility and fishing pressure
-Utilize splake and rainbow trout as an alternative for lake trout opportunities
-Request fish stock larger than 20 grams for stocking to ensure a better chance of survival
-Encourage Fish and Game Clubs to adopt a lake for stocking and

management purposes

Strategy -Protect Fisheries from Intensive Angling Impacts (e.g. fishing derbies)

Tactics

-Encourage catch and release angling tournaments
-Encourage the use of larger bodies of water (greater than 500 hectares) where the target species are killed
-Encourage species used in fish derbies to be panfish or other highly reproductive species
-Restrict MNR participation (e.g. judging or tagging of fish for prizes)

Problem/Issue #3: Illegal Harvest

Strategy - Minimize Illegal Harvest

Tactics

-Request heavier fines for fisheries infractions. Request that the loss of a licence or fishing privileges becomes part of the penalty for conviction
-Protect by regulation important warmwater and coldwater spawning populations (e.g. sanctuaries)
-Set up a "Report-a-Poacher" program for the public, encouraging them to report ongoing, instead of after the fact infractions
-Assess the need for additional enforcement. Promote public assistance in enforcement efforts

Problem/Issue #4: Lack of Public Awareness and Unrealistic Resource Demands

Strategy - Expand Public Information, Education and Involvement

Tactics

-Make all future fisheries management plans available to the public for input
-Request input from local fish and game clubs and other concerned groups
-Make CFIP information available to all interested groups
-Make information available to all interested groups regarding private stocking of public waters
-Develop a more active extension program using workshops and the general media such as newsletters, radio, T.V. and newspaper coverage

Problem/Issue #5: Limited Access

Strategy - Increase Public Awareness

Tactics

-Discourage individuals or municipalities from restricting public access
-Educate users regarding respect for property (e.g. trespassing, anti-litter campaign, etc.)
-Update pamphlets regarding lands available for public access

-Develop agreements with landowners
-Develop more access points with the aid of public interest groups

Problem/Issue #6 User Conflicts

(a) Recreational User (Boating, Swimming, etc.) vs. Fisheries Management

Strategy - Reduce Impacts of Recreational Use on Fisheries Habitat

Tactics

-Restrict the removal of weed beds from spawning and nursery areas
-Encourage removal of water weeds by mechanical rather than chemical means, if removal is required

(b) Recreational Angler vs. Commercial Harvester

Strategy - Reduce Conflicts Over the Use of the Resource by Anglers and Bait Fish Harvesters

Tactics

-Increase enforcement of regulations (e.g. identification on bait fish traps)
-Increase inspections of bait fish dealers to ensure proper use of the forage base of the fisheries resource

Problem/Issue #7 Inadequate Scientific Knowledge

Strategy - Promote the Expansion of the Fisheries Scientific Knowledge Base

Tactics

-Expand fisheries assessment information through angler surveys, intensive creel census programs, etc. to better identify problem areas and necessary management responses (e.g. bait fish resource)
-Utilize the resident angling licence statistics to establish how the fisheries resource is being used and apply the information to the expanding scientific knowledge base
-Involve the District in more experimental management (e.g. innovative use of fishery regulations)
-Ensure that information used in deciding management direction(s) is current

Problem/Issue #8 Introduction of Non-Native Species

Strategy - Restrict the Introduction of Undesirable Species into District Waters

Tactics

-Tighten inspection systems and licence issuing procedures for bait fish industries
-Ban the use of bait fish in reclaimed waters by regulation

Strategy - Rehabilitate Suitable Waters which will Increase the Number of Angling Opportunities

Tactics

-Reclaim small trout lakes lost to warmwater species such as perch or rock bass
-Control the removal of non-native species by netting (CFIP projects)
-Introduce top predators where they will enhance the fishery
-Educate the public regarding the impacts and consequences of

accidental or intentional introduction of undesirable fish species

3.2.2 Commercial Fisheries Management

Objective

To maintain a viable industry.

Target

There is no assigned target for Pembroke District.

Discussion

At the time the District Land Use Guidelines were put in place there were two experimental gillnet fisheries for sturgeon on the Ottawa River. The information collected from these fisheries was analysed, and it was concluded that the allowable harvest was too small to support a viable fishery. Sturgeon in the Ottawa River are a slow growing fish taking as long as five decades to reach harvestable size limits. In view of the above, Pembroke District will no longer consider licences or permits for the commercial harvesting of sturgeon in the Ottawa River.

At present, a potential for the commercial harvest of catfish exists in the Ottawa River. A commercial venture for this species could be considered by the District provided live-trapping gear is used. This resource will be available for harvest when a suitable market can be found.

The District will not consider any commercial fishing operations on inland lakes for sport fish.

3.2.3 Bait Fish Management

Objective

To maintain current production and to manage local bait fish stocks to ensure stable and healthy populations.

Target

To provide 70,000 dozen bait fish by the year 2000.

This figure represents a reduction from the District Land Use Guidelines target which has been adjusted due to a refinement of background data and public input. Discussions with harvesters and the general public suggest that the restriction of access to bait fish resources on private property prevents the full use of the available resource.

Discussion

There are currently 60 licenced bait fish harvesters and 69 establishments licenced to sell bait fish in Pembroke District. Annual returns indicate fluctuations in harvest of between 50,000 and 75,000 dozen bait fish, with an estimated gross value of between $45,000 and $81,000. It is felt that, as the demand for bait fish increases, the industry will respond to meet that demand.

Strategy -Protect and Maintain Existing Bait Fish Populations

Tactics

-Enforce existing regulations pertaining to the catching and sale of bait fish

-Inspect retail establishments on a regular basis
-Include a section in the "Report a Poacher" program to review the bait fish industry

Strategy - Increase Bait Fish Availability to Anglers in Pembroke District

Tactics

-Encourage quality bait fish operations
-Encourage the establishment of year-round harvesters/dealers rather than short-term dealers who disappear when bait is difficult to harvest
-Encourage bait fish harvesters to rear bait fish to reduce pressure on natural populations
-Ensure that bait fish dealers submit accurate detailed records of catches and sales

3.2.4 Provincially Rare and Endangered Fish Species Management

Objective

To prevent the extinction of any native fish species.

Target

To ensure no native fish species become extinct.

Discussion

Rare and endangered fish species include those species which have been identified by the Committee on the status of Endangered Wildlife in Canada (C.O.S.E.W.I.C.).

The Committee is currently reviewing the status of fish species in Ontario for possible inclusion and protection under the Act.

At present, no fish species within Pembroke District are recognized as being rare or endangered.

While all pertinent legislation will continue to be actively enforced, efforts will also be directed to updating existing records as well as protecting those species which may be classed as threatened, rare or endangered.

Strategy - Determine if any Rare or Endangered Fish Species Inhabit District Waters

Tactics

-Conduct surveys to determine if any endangered or rare fish species inhabit District waters
-Send any unknown fish specimen taken from District waters to the Royal Ontario Museum for positive identification

Strategy - Protect the Habitat of Rare and Endangered Species

Tactics

-Enforce existing legislation pertaining to fish habitat protection

Strategy - Inform and Educate the Public Regarding the Status of Locally Rare and Endangered Fish Species

Tactics

-Inform/update the public on information which establishes the presence of rare or endangered species.

3.2.5 Non-consumptive Resource Use Management

The District Land Use Guidelines did not address this aspect of the resource. The Ministry's fish hatchery located near Petawawa provides the public with an opportunity to view trout in various pre-stocking stages. An estimated 7,500 people tour the hatchery facility each year.

4.0 IMPLEMENTATION

4.1 General Background

Consistent with the planning period established for the Ministry's strategic land use planning exercises, this Fisheries Management Plan provides direction for fisheries management activities in the Pembroke District to the year 2000. In addressing fisheries management issues, the Plan will ensure that all management strategies and tactics implemented by the District will achieve program objectives and targets in accordance with the Ministry's overall goals and objectives.

The strategies and tactics identified in this Plan will be implemented through:

(a) the preparation of Five Year Implementation Schedules: outlining programs and projects proposed to be undertaken over the next five year period;

(b) the preparation of annual work plans outlining specific programs and projects to be approved and funded through the Ministry's budgeting process;

(c) co-operative efforts with local sportsmen's organizations and private interest groups under the Community Fisheries Involvement Program;

(d) the review and approval of work plans and development proposals from municipalities, private landowners and other government agencies; and

(e) input or participation in other Ministry of Natural Resources programs, (e.g. timber management plans).

It is intended that the Implementation Schedule provided in this Plan will be reviewed by District staff on an annual basis. These informal reviews will determine if amendments to the Implementation Schedule or to the Plan itself will be required in response to changes in scientific knowledge, management techniques or resource information. The intent of these reviews is to ensure maximization of the effectiveness and efficiency of programs implemented through this Plan.

All amendments to this Plan, where deemed appropriate, will be undertaken in accordance with the process outlined in the Ministry's "Procedures for Amending District Land Use Guidelines". When amendments are proposed which may affect the public, public review and the approval of the District Manager and the Regional Director will be required. In these instances, the District will determine the "public" to be consulted, will select the appropriate method of public consultation to be followed and will document all public responses.

All Implementation Schedules, prepared subsequent to the initial five year planning period, will also be subject to the review of the public and the approval of the District Manager and the Regional Director.

4.2 Implementation Schedule

Management strategies and tactics intended to address fisheries resource problems and issues within Pembroke District have been identified in this Plan. The specific management activities to be implemented over the initial

five year period of the Plan are summarized in Table 2 and detailed in Table 3 (page 23).

Annual work plans, intended to implement selected management strategies and tactics, will be developed in accordance with the priorities established in the implementation schedule.

Projects relating to specific management tactics not identified in the initial five year implementation schedule (1987-1991) will be identified and priorized in subsequent implementation schedules.

The programs to be undertaken during the first implementation schedule have been classified into two groups:

a) those which can be carried out under existing funding levels; and

b) those which can be carried out using additional funding.

Many of the management activities indicated under current funding levels would be completed by permanent staff supplemented by seasonal employees, junior rangers and assistance from local sportsmen's club members.

In recent years, management projects such as rehabilitation and stocking of warmwater species have been carried out by local sportsmen and interest groups under the Community Fisheries Involvement Program. The implementation schedule, although not identifying specific projects to be carried out by local groups, does provide direction for such future programs.

Enforcement efforts within the district were also assessed during the preparation of this Plan. These efforts are primarily directed to protecting spawning fish populations and to ensuring adherence to open season regulations. Enforcement staff currently devote approximately 30% of their time to fisheries enforcement with the majority of that time being spent during winter angling months, spring fish runs, and early summer fishing periods. It is anticipated that with the implementation of resident sport fishing licences, beginning in 1987, more time will ultimately be spent on fisheries enforcement.

All fisheries projects are subject to the requirements of the Environmental Assessment Act. As a result of complying with class assessment requirements there may be changes in the order of completion of projects identified in this Plan.

4.3 Summary of Management Emphasis: 1987-1991

In general, fisheries management program efforts over the next five years will focus on maintaining or improving the existing level of resource production and on protecting against overharvest.

Maintaining and improving resource production levels will involve:

1) the creation and improvement of warmwater fisheries through maintenance stocking of walleye fingerlings, the creation of new warmwater fisheries by adult transfers, and the rehabilitation and enhancement of warmwater spawning habitat for walleye and other warmwater species;

2) the assessment of coldwater fisheries for production;

TABLE 2

SUMMARY OF THE FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE (1987-1991)

Funding Sources	Program/Project	Year of Implementation 1987	1988	1989	1990	1991
A. Programs Based on Existing Funding	1) Fish stocking (number of waters)	55	58	55	58	55
	2) Splake introduction projects	1	1	1	1	1
	3) Stocking assessment program (number of waterbodies)	5	5	5	5	5
	4) CFIP advice and on-site expertise (* as funding and project acceptance permits)	5	*	*	*	*
	5) Spawning studies	1	1	1	1	1
	6) Number of habitat rehabilitation projects (CFIP)	1	1	1	1	1
	7) Number of walleye rearing projects (CFIP)	1	1	1	1	1
B. Programs Requiring Additional Funding	1) Number of lakes stocked with rainbow trout (private purchase)	4	3	4	3	4
	2) Aerial fish stocking by helicopter	18	20	18	20	18
	3) Spawning bed rehabilitation	where required district-wide				
	4) Assessment of walleye spawning areas for egg collection (one major run per year) 1987-1991	1	1	1	1	1
	5) Spawning area investigation for sanctuaries to protect early spawning walleye (number of waterbodies)	1	1	1	1	1
	6) Number of reclamations of coldwater habitat (number of waters)	2	2	2	2	2
	7) Creel census projects	1	1	1	1	1
	8) Number of spawning bed assessments (coldwater)	1	1	1	1	1
	9) Number of contaminant monitoring (lakes)	1	1	1	1	1
	10) Number of lake or stream inventories (new or updated)	5	5	5	5	5

3) the rehabilitation of brook trout lakes lost to competitor species by reclamation; and

4) the creation of new splake fisheries in under-producing coldwater lakes.

As previous aquatic surveys concentrated primarily on coldwater lakes and rivers or on waterbodies containing fish communities and habitat areas perceived to be of higher quality, it is intended that the remaining larger warmwater lakes and rivers will be inventoried (see Appendices 1 and 2 for management designations of surveyed lakes, rivers and streams throughout the District).

During the preparation of this Plan, the need to consolidate information pertaining to the walleye resource became evident. In response to this need, a complete inventory of walleye spawning areas will be undertaken, potential walleye egg sources necessary to maintaining present and future walleye culture projects will be inventoried, protected and managed, and a determination of the need and location of potential fish sanctuaries will be inventoried and evaluated.

Stocking programs in the District will continue to concentrate primarily on coldwater species (i.e. lake trout, brook trout, splake and rainbow trout). Fish and Game Clubs will be encouraged to participate in maintenance stocking programs by stocking Crown waters as part of their program efforts.

In lakes where the original coldwater species habitat has been destroyed, other species which can better utilize this same habitat will be introduced. In addition, where fish stocks and suitable habitat conditions exist, introductions of muskellunge may be undertaken to redirect fishing pressure away from coldwater lakes.

In response to concerns of potential stresses on bait fish resources, better utilization of bait fish stocks will be encouraged through more stringent enforcement of existing regulations dealing with the general maintenance, operation and sanitary quality of commercial outlets.

Management of individual streams and rivers within the District will be based on the type, number and quality of fish species in the resident fish community and on the quality of the existing habitat. Every effort will be made to maintain or increase fish production in existing waters through habitat rehabilitation programs and/or the improvement of degraded fish stocks. Rehabilitation projects will concentrate on improving and restoring streambeds, streambanks and spawning beds, whereas the improvement of degraded fish stocks may be accomplished through stocking (coldwater) or adult fish transfers (warmwater).

Past stocking programs provided for the stocking of many District streams with brook trout. Continuation of these programs will now be dependent upon suitable fish habitat and the size of fish available at the time of stocking.

TABLE 3: **Fisheries Management Implementation Schedule (1987-1991)**

This table is divided into two sections:

A) Programs which can be carried out at existing funding levels.

B) Programs which can be carried out using additional funding.

All of the strategies and tactics mentioned in the Plan will not necessarily appear in the first Five Year Implementation Schedule. They will, however, be addressed within the overall time period of the Plan (1987-2000) on a priority basis.

TABLE 3
FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE - PEMBROKE DISTRICT
1987-1991

(A) Programs which can be carried out at existing funding levels:

Strategy	Tactic	Location (Lake, Township, Species Code**)	Issues/Problems Addressed
Fish stocking*	1. Maintain current level and frequency of stocking on an alternate year basis.		Limited Coldwater Habitat/Producing a Coldwater Fishery to Accommodate All Users

Lakes to be stocked in 1987, 1989,1991

Bark Lake	Jones	- 81
Diamond Lake	Radcliffe	- 81
Charlotte Lake	Brudenell	- 81
Waterloo Lake	Clara	- 81
Wadsworth Lake	Radcliffe	- 81
Muskrat Lake	Westmeath	- 81
Belanger Lake	Blithfield	- 80
Acorn Lake	Richards	- 80
Gling Lake	Blithfield	- 80
Shiner Lake	Brougham	- 80
Eleanor Lake	Brougham	- 80
Louies Lake	Brougham	- 80
McDonald Lake	Burns	- 80
Walker Lake	Burns	- 80
Gardiner Lake	Clara	- 80
Buck Mountain L.	Brudenell	- 80

Lakes to be stocked in 1988, 1990, 1992

Trout Lake	Jones/Sherwood	- 81
Carson Lake	Jones/Sherwood	- 81
Bark Lake	Jones	- 81
Green Lake	Brougham	- 81
Kamaniskeg Lake	Sherwood	- 81
Burns Lake	Griffith	- 81
Lake Clear	Sebastopol	- 81
Morrow Lake	Matawatchan	- 81
McSourley Lake	Head	- 81
Big Gibson Lake	Maria	- 81
Wendigo Lake	Clara	- 81

Note:

* Depending on the results of ongoing stocking assessment studies, specific waterbodies may be added or deleted from stocking program lists. Stocking lists are to be verified and updated annually before stocking takes place.

**Species coding, based on the Numerical Fisheries Code (Aquatic Habitat Surveys) is as follows:

- Lake Trout
- Brook Trout
- Rainbow Trout
- Splake
- Walleye
- Muskellunge
- Smallmouth Bass

This coding procedure applies to the entire Implementation Schedule

TABLE 3
FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE - PEMBROKE DISTRICT
1987-1991

(A) Programs which can be carried out at existing funding levels:

Strategy	Tactic	Location (Lake, Township, Species Code**)			Issues/Problems Addressed
Fish Stocking (continued)*	Maintain current level and frequency of stocking on an alternate year basis.	Lakes to be stocked in 1988, 1990, 1992 (continued)			Limited Coldwater Habitat/Producing a Coldwater Fishery to Accommodate All Users
		Little Tooey L.	Brougham	- 80	
		Holmes Lake	Brougham	- 80	
		Trout Lake	Head	- 80	
		Serpent Lake	Lyndoch	- 80	
		Owl Lake	Maria	- 80	
		Tooey Lake	Brougham	- 80	
		St. Pierre Lake	Blithfield	- 80	
		Billys Lake	Maria	- 80	
		Big Bissett Lake	Maria	- 80	
		Clara Lake	Clara	- 80	
		Mill Lake	Head	- 80	
		Parkline Lake	Head	- 80	
		Mud Lake (Little Hardwood)	Blithfield	- 80	
		Marble Lake	Brougham	- 80	
		Red Pine Lake	Fraser	- 80	
		Stubinski Lake	Brougham	- 80	
		Big Trout Lake	Fraser	- 80	
		Archies Lake	Grattan	- 80	
		Beaver Lake (Hardwood)	Griffith	- 80	
		Soldier Lake	Head	- 80	
		Loon Lake	Jones	- 80	
		Little Beaver L.	Jones	- 80	
		Turtle Lake	Lyndoch	- 80	
		Rock Lake	Lyndoch	- 80	
		Strong Lake	Matawatchan	- 80	
		Wormy Lake	McKay	- 80	
		Jonsons Lake	North Algona	- 80	
		Dropledge Lake	Raglan	- 80	
		Beeches Lake	Raglan	- 80	
		Marquardt Lake	Raglan	- 80	
		Tooey Lake	Brougham	- 80	
		Buckskin Lake	Sebastopol	- 80	
		Minnow Lake	Blithfield	- 80	
		Canoe Lake	Griffith	- 80	
		Highland Creek	Griffith	- 80	
		Byers Creek	Hagarty	- 80	
		Sherwood River	Sherwood	- 80	

TABLE 3
FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE - PEMBROKE DISTRICT
1987-1991

(A) Programs which can be carried out at existing funding levels:

Strategy	Tactic	Location (Lake, Township, Species Code**)			Issues/Problems Addressed
Reduce Pressure on Lake Trout Populations	Create new fisheries in areas adjacent to lake trout fisheries. Stock suitable coldwater lakes with rainbow trout or splake as an alternate to lake trout.	Lakes to be stocked in 1987, 1989, 1991			Limited Coldwater Habitat/Producing a Coldwater Fishery to Accommodate All Users.
		Long Lake	Brougham	- 76	
		Wabun Lake	Brougham	- 76	
		Menet Lake	Head	- 76	
		Jennings Lake	Head	- 76	
		Shanty Lake	Raglan	- 76	
		Oakhill Lake	Brougham	- 76	
		Battery Lake	Blithfield	- 82	
		Flat Iron Lake	Fraser	- 82	
		Perch Lake	Head	- 82	
		Spectacle Lake	Jones	- 82	
		Gun Lake	Radcliffe	- 82	
		Lakes to be stocked in 1988, 1990, 1992			
		Lower Twin Lake	Brougham	- 76	
		Oriole Lake	Blithfield	- 76	
		Wabun Lake	Brougham	- 76	
		Limestone Lake	Brougham	- 76	
		Menet Lake	Head	- 76	
		Little Lake	Maria	- 82	
		Eeyore Lake	Maria	- 82	
		McMaster Lake	Jones	- 82	
		Hardwood Lake	Raglan	- 82	
		Halfway Lake	Radcliffe	- 82	
		Schavens Lake	Sebastopol	- 82	
	Utilize splake or rainbow trout as alternatives for lake trout opportunities. (Assessment of one lake per year 1987-1991)	Joyces Lake	Lyndoch (1987)	- 82	

TABLE 3
FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE - PEMBROKE DISTRICT
1987-1991

(A) Programs which can be carried out at existing funding levels:

Strategy	Tactic	Location (Lake, Township, Species Code**)			Issues/Problems Addressed
Reduce Pressure on Lake Trout Populations	Encourage the shifting of pressure to other species such as walleye, pike, muskellunge and bass.	Centennial Lake Golden Lake Grassy Lake	Matawatchan North Algona Wylie	-132 -132 -132	Limited Coldwater Habitat/Producing a Fishery to Accommodate All Users.
	(Stocking of muskellunge, walleye, bass when available. Adult transfers on experimental basis only).	Dam Lake	Radcliffe (adult transfer)	-316	
Rehabilitate Suitable Waters which will Increase Angling Opportunities	Reclaim small brook trout lakes lost to warmwater species such as perch or rock bass. Intended that: a) 5 lakes per year (1987-1991) suspected of poor returns due to competitor species will be assessed (netting survey) b) selected lakes will then be subject to environmental assessments before reclamation is approved.	To be selected			Introduction Non-Native Species
Protect Fisheries Habitat	Review and comment on public and private development proposals in areas immediately adjacent to spawning and nursery areas for both coldwater and warmwater species.	District-wide			Habitat Loss and/or Loss of Environmental Quality; Creating New Fisheries Habitat

TABLE 3
FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE - PEMBROKE DISTRICT
1987-1991

(A) Programs which can be carried out at existing funding levels:

Strategy	Tactic	Location (Lake, Township, Species Code**)		Issues/Problems Addressed
Rehabilitate Degraded Habitat	Support CFIP Projects by interest groups which rehabilitate and enhance spawning and nursery areas in major fisheries. (Provide expertise and on-location advice for the identified CFIP projects (1987)).	Kamaniskeg Lake Calabogie Lake Centennial Lake Cameron Lake Dam Lake	Sherwood Bagot/Blithfield Brougham Lyndoch Radcliffe	Habitat Loss and/or Loss of Environmental Quality; Creating New Fisheries Habitat
Rehabilitate Suitable Waters which will Increase the Angling Opportunities	Support controlled removal of non-native species by netting (CFIP).	Kamaniskeg Lake Calabogie Lake Centennial Lake Cameron Lake Dam Lake	Sherwood Bagot/Blithfield Brougham Lyndoch Radcliffe	Introduction of Non-Native Species
Expand Public Information, Education and Involvement	Make CFIP information available to all interested groups.	District-wide		Lack of Public Awareness and Unrealistic Resource Demands
Promote the Expansion of the Fisheries Scientific Knowledge Base	Ensure information used in deciding management direction is current. (Investigate apparent drop in fishing quality - examine walleye spawning population)	Golden Lake Bonnechere River	South Algona North and South Algona	Inadequate Scientific Knowledge

TABLE 3
FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE - PEMBROKE DISTRICT
1987-1991

Strategy	Tactic	Location (Lake, Township)	Issues/Problems Addressed
Reduce Pressure on Lake Trout Populations	Encourage shifting of pressure to other species such as walleye, pike, muskellunge and bass. (Population Study Pre-Assessment - Tag and Release Walleye Program which follow-up creel census. CFIP - habitat improvement suggested - information required to justify necessity).	Lake Madawaska - McNab - Arnprior Fish and Game Club.	Limited Coldwater Habitat/Producing a Coldwater Fishery to Accommodate All Users
Promote the Expansion of the Fisheries Scientific Knowledge Base	Expand user group information through angler surveys, intensive creel census programs, etc.	District-wide	Inadequate Scientific Knowledge
Expand Public Information, Education and Involvement	Request input from local fish and game clubs and other concerned groups.		Lack of Public Awareness and Unrealistic Resource Demands

TABLE 3
FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE - PEMBROKE DISTRICT
1987-1991

Strategy	Tactic	Location (Lake, Township)	Issues/Problems Addressed
Rehabilitate Degraded Fish Habitat	Support CFIP projects by interest groups which rehabilitate and enhance spawning and nursery areas in major fisheries (Walleye raising projects (CFIP) involving habitat rehabilitation of spawning and nursery areas, egg collection and release of fry)	Muskrat River - Pembroke Outdoor Sportsmen's Club - Kaminskeg Lake Kaminskeg Cottagers Assoc. Centennial Lake - Centennial Lake Cottager's Association	Habitat Loss and/or Loss of Environmental Quality
Create New Fisheries Habitat	Create and enhance warmwater spawning areas by the addition of suitable materials with optimum fast water (walleye habitat).		Habitat Loss and/or Loss of Environmental Quality
Expand Public Information, Education, and Involvement	Make CFIP information available to all interested groups.		Lack of Public Awareness, and Unrealistic Resource Demands
Promote Expansion of Fisheries Scientific Knowledge Base	Involve district in more experimental management.		Inadequate Scientific Knowledge
Reduce Pressure on Lake Trout Populations	Encourage shifting of pressure to other species such as walleye.		Limited Coldwater Habitat/Producing a Coldwater Fishery to Accommodate All Users.

TABLE 3
FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE - PEMBROKE DISTRICT
1987-1991

Strategy	Tactic	Location (Lake, Township)	Issues/Problems Addressed
Reduce Pressure on Lake Trout Populations	Create new fisheries in adjacent to lake trout fisheries. Stock suitable coldwater lakes with splake or rainbow trout as an alternative to lake trout. (Lakes to be stocked on an alternate year basis - dependent on availability of stock)	Limestone Lake - Brougham - 76 Lower Twin Lake - Brougham - 76 Wabun Lake - Brougham - 76 Oriole Lake - Blithfield - 76 Oakhill Lake - Brougham - 76 Long Lake - Blithfield - 76 Shanty Lake - Raglan - 76	Limited Coldwater Habitat/Producing a Coldwater Fishery to Accomodate All Users.
Fish Stocking	Utilize splake and rainbow trout as an alternative for lake trout opportunities.		
Fish Stocking (Aerial)	Select lakes for annual stocking and others for alternate rotations based on accessibility. (In order to guarantee that the identified brook trout lakes remain in the regular stocking program, efforts will be made to obtain funding for aerial planting)	1987, 1989, 1991 Louies Lake - Brougham Bailey Lake - Blithfield Minnow Lake - Blithfield Brennan Lake - Brougham Heifer Lake - Brougham Murphy Lake - Brougham Upper Twin L. - Brougham Deep Lake - Brudenell Dugan Lake - Griffith Serpent Lake - Lyndoch Beaudrie Lake - Raglan Marquardt Lake - Raglan Buckskin Lake - Sebastopol Archies Lake - Grattan Loon Lake - Jones Little Beaver L. - Jones Godin Lake - Griffith	

TABLE 3
FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE - PEMBROKE DISTRICT
1987-1991

Strategy	Tactic	Location (Lake, Township)	Issues/Problems Addressed
Fish Stocking (Aerial) (continued)	Select lakes for annual stocking and others for alternate rotations based on accessibility.	McDonald Lake - Burns Walker Lake - Burns Red Pine Lake - Fraser Big Trout L. - McKay Wee Trout L. - McKay Wormy Lake - McKay Cow Lake - McKay Johnson Lake - North Algona Clara Lake - Clara Eeyore Lake - Maria Gardener Lake - Clara Head Lake - Head Mill Lake - Head Parkline Lake - Head Owl Lake - Maria Billys Lake - Maria Bernard Lake - Maria Devon Lake - Head Wylie Lake - Head	Limited Coldwater Habitat/Producing a Coldwater Fishery to Accommote All Users.
Rehabilitate Degraded Habitat	Initiate Ministry projects to rehabilitate spawning areas.	District-wide, where required.	Habitat Loss and/or Loss of Environmental Quality; Creating New Fisheries Habitat.
Expand Public Information, Education, and Involvement	Request input from local fish and game clubs and other concerned groups. (Investigate walleye spawning areas for egg collection (CFIP) during 1987-1991).	Madawaska River Bonnechere River Ottawa River (Other waters which may have potential egg collection spawning runs).	Lack of Public Awarness and Unrealistic Resource Demands
Promote the Expansion of the Fisheries Scientific Knowledge Base	Involve district in more assessment and experiemental management. (Investigate areas of poor fishing success).	District-wide, where required.	Inadequate Scientific Knowledge

TABLE 3
FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE - PEMBROKE DISTRICT
1987-1991

Strategy	Tactic	Location (Lake, Township)	Issues/Problems Addressed
Minimize Illegal Harvest	Protect by regulation important spawning populations, both warm and coldwater (sanctuaries). (Map and define spawning areas to create sanctuaries for the protection of early spawning walleye).	Madawaska River Bonnechere River Major spawning runs district-wide	Illegal Harvest
Rehabilitate Suitable Waters which will Increase the Angling Opportunities	Reclaim small trout lakes lost to warmwater species such as perch or rock bass	Two brook trout lakes which have competitor species	Introduction of Non-Native Species
Promote the Expansion of the Fisheries Scientific Knowledge Base	Expand User Group information through angler surveys, interviews, creel programs, etc.. (Ensure information in deciding management direction is current (Spawning evaluation of lake trout lakes, stocked fish vs. natural reproduction).	Intensive creel census - interviews with aerial Ottawa River Diamond Lake - Radcliffe Muskrat Lake - Westmeath Waterloo Lake - Clara Burns Lake - Griffith Kamaniskeg Lake - Sherwood Lake Clear - Sebastopol	Inadequate Scientific Knowledge Inadequate Scientific Knowledge
Protect Fisheries Habitat	Identify important spawning and nursery areas for both coldwater and warmwater species.	District-wide	Habitat Loss and/or Loss of Environmental Quality; Creating New Fisheries Habitat

TABLE 3
FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE - PEMBROKE DISTRICT
1987-1991

Strategy	Tactic	Location (Lake, Township)	Issues/Problems Addressed
Monitor Fish Contaminants	Using the prescribed techniques in conjunction with the Ministry of the Environment; monitor the contaminant levels in selected lakes.	Lake Clear - Sebastopol	Habitat Loss and/or Loss of Environmental Quality; Creating New Fisheries Habitat
Promote the Expansion of the Fisheries Scientific Knowledge Base	Ensure information used in deciding management direction is current (update previous survey data).	Head, Clara and Maria Townships	Inadequate Scientific Knowledge

APPENDICES

Appendix 1 - Fisheries Management Designation for Lakes in Pembroke District

Appendix 2 - Fisheries Management Designation for Rivers/Streams in Pembroke District

Appendix 3 - A Summary of Public Response to the Background Information and Optional Management Strategies and Tactics Document, and to the Draft Fisheries Management Plan for Pembroke District.

APPENDIX 1 Fisheries Management Designation for Lakes in Pembroke District

Lakes in the Pembroke District designated for management are outlined in Table 4. As past provincial priorities were placed on the surveying of lakes which had possible coldwater habitat, many known warmwater lakes were not surveyed. Table 4, therefore, does not provide an all encompassing listing of known warmwater fisheries. It is intended that this deficiency in information will be addressed through the surveying of the remaining larger warmwater lakes. As surveys and management designation assessments of these lakes are completed, they will be added to Table 4.

Fish Community Coding

As a result of the work of SPOF Working Group #1 (i.e., Designation of Assessment Units), a "community" coding system was developed whereby the six major fish species, brook trout, lake trout, lake whitefish, northern pike, smallmouth bass and walleye were selected to represent major fish communities. These species either singly or in combination, defined 63 major community types.

In addition to the SPOF community codes, the district has developed additional community combinations representing species not included on the original SPOF list. A total of 41 community groupings exist in the District and are identified as follows:

PEMBROKE DISTRICT **FISHERIES COMMUNITY CODING INDEX**

Assigned Community Code	Major Community Types
01	Walleye
02	Smallmouth Bass
03	Smallmouth Bass, Walleye
04	Northern Pike
05	Northern Pike, Walleye
06	Northern Pike, Smallmouth Bass
07	Northern Pike, Smallmouth Bass, Walleye
08	Lake Whitefish
15	Lake Whitefish, Northern Pike, Smallmouth Bass, Walleye
16	Lake Trout
18	Lake Trout, Smallmouth Bass
22	Lake Trout, Northern Pike, Smallmouth Bass
24	Lake Trout, Lake Whitefish
26	Lake Trout, Lake Whitefish, Smallmouth Bass
32	Brook Trout
34	Brook Trout, Smallmouth Bass
36	Brook Trout, Northern Pike
56	Brook Trout, Lake Trout, Lake Whitefish
64	Coarse Fish
65	Largemouth Bass
67	Largemouth Bass, Muskellunge
68	Largemouth Bass, Smallmouth Bass
69	Largemouth Bass, Whitefish
70	Largemouth Bass, Northern Pike
71	Largemouth Bass, Smallmouth Bass, Whitefish
72	Largemouth Bass, Smallmouth Bass, Walleye
73	Largemouth Bass, Smallmouth Bass, Northern Pike

Assigned Community Code	Major Community Types
74	Largemouth Bass, Smallmouth Bass, Lake Trout
75	Largemouth Bass, Northern Pike, Lake Whitefish
76	Largemouth Bass, Smallmouth Bass, Northern Pike, Lake Whitefish
77	Largemouth Bass, Smallmouth Bass, Walleye, Northern Pike
78	Largemouth Bass, Smallmouth Bass, Walleye, Lake Trout
79	Largemouth Bass, Smallmouth Bass, Lake Whitefish, Lake Trout
80	Largemouth Bass, Smallmouth Bass, Lake Trout, Lake Whitefish, Walleye
81	Largemouth Bass, Smallmouth Bass, Lake Trout, Lake Whitefish, Walleye
82	Largemouth Bass, Smallmouth Bass, Lake Trout, Walleye, Northern Pike
83	Largemouth Bass, Smallmouth Bass, Lake Trout, Lake Whitefish, Northern Pike, Walleye
84	Rainbow Trout
85	Rainbow Trout, Largemouth Bass, Smallmouth Bass
86	Splake
87	Splake, Largemouth Bass, Smallmouth Bass

TABLE 4

FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Acorn Lake	Richards	2KC02	32	Brook trout reclaimed (1986).
Adelard Lake	Maria	2KA05	15	Part of Ottawa River.
Aird Lake	Matawatchan	2KE05	73	Continue to manage for warmwater species.
Albert Lake (Stoppas)	Sherwood	2KC02	06	Continue to manage for warmwater species.
Anderson Lake (Yukes)	Brudenell	2KD07	06	Manage for warmwater species.
Annie's Lake (Victoria 2)	Sherwood	2KD01	70	Continue to manage for warmwater species.
Archies Lake	Grattan	2KE03	32	Access problem.
Arnprior Reservoir (NL)	McNab	2KE01	77	Madawaska River management.
Astrolabe Lake (Green)	Ross	2KC05	73	Restricted access - continue to manage for warmwater species.
Bagot Long Lake (Long)	Bagot	2KE01	07	Continue to manage for warmwater species. CFIP stream improvement for walleye (1986).
Bailey Lake	Blithfield	2KF06	32	Continue to manage for brook trout.
Bark Lake	Jones	2KD01	26	Continue to manage for lake trout.
Barry Lake	Blithfield	2KE01	32	Reclaimed for brook trout (1985).
Battery Lake	Blithfield	2KE01	65	Splake introduction (1984).
Bear Lake	Dickens	2KD01	34	Manage for warmwater species.
Beaver Lake	Head	2KA04	32	Continue to manage for brook trout.
Beaverdam Lake	Burns	2KC02	75	Bonnechere River chain.
Beeches Lake	Raglan	2KB03	32	Continue to manage for brook trout.
Beechnut Lake	Richards	2KC06	32	Continue to manage for brook trout.
Beerman Lake	Wylie	2KA03	02	Continue to manage for warmwater species.
Belanger Lake	Blithfield	2KE01	32	Continue to manage for brook trout.
Bernard Lake	Maria	2KA06	32	Update of survey information and species composition required
Big Bissett Lake	Maria	2KA06	32	Manage for coldwater species.

TABLE 4

FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Big Cranberry Lake	Richards	2KC02	64	Baitfish.
Big Eneas Lake (Lyndoch)	Lyndoch	2KE07	06	Continue to manage for warmwater species.
Big Gibson Lake	Maria	2KA06	18	Update of survey data and species composition required.
Big Limestone Lake (Chapman)	Brougham	2KE04	08	Consider splake introduction.
Big Shingle Lake	Maria	2KA06	64	Baitfish.
Big Trout Lake	Fraser	2KC06	32	Manage for brook trout.
Billys Lake	Maria	2KA05	32	Manage for brook trout.
Black Lake (Blackbird)	Brougham	2KE04	64	Coarse fish - access restricted.
Blithfield Lake (Long)	Blithfield	2KE01	84	Manage for rainbow trout.
Blue Lake 1 (NL)	Westmeath	2KC01	70	Manage for warmwater fisheries.
Blue Lake 2 (NL)	Westmeath	2KC01	70	Manage for warmwater fisheries.
Bolands Lake (Kelly)	Sebastopol	2KC08	04	Continue to manage for warmwater species.
Brennan Lake	Brougham	2KE03	32	Manage for brook trout.
Brewster Lake	Richards	2KC02	70	Manage for warmwater species.
Britches Lake	Brudenell	2KD07	04	Continue to manage for warmwater species.
Britchless Lake (Big)	Brudenell	2KD07	05	Continue to manage for warmwater species.
Buck Lake (Lepine)	Sherwood	2KD01	08	Could support splake fishery (create more opportunities).
Buck Lake (Buckmountain)	Brudenell	2KD07	32	Reclaimed 1986 - manage for brook trout.
Buckskin Lake	Sebastopol	2KD07	32	Manage for brook trout.
Burns Lake	Burns	2KC10	72	Manage for warmwater species.
Burns Lake	Griffith	2KE04	16	Stock on 3 or 4 year rotation - consider closure to winter fishing.
Burns Long Lake	Brougham	2KE04	06	Continue to manage for warmwater species.

TABLE 4

FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Calabogie Lake	Bagot	2KE01	77	Continue to manage for warmwater species.
Cameron Lake (Eneas)	Lyndoch	2KD07	72	Being considered for CFIP program to improve walleye spawning and manage for warmwater species.
Campground Lake	Maria	2KA06	64	Manage for warmwater species.
Canoe Lake	Griffith	2KE06	32	Manage for brook trout.
Carson Lake	Jones	2KD01	79	Continue to manage for lake trout.
Cartier Lake	Wylie	2KB05	68	Manage for warmwater species.
Centennial Lake (Black Donald)	Matawatchan	2KE01	77	Manage for warmwater species.
Centre Lake	Wylie	2KB01	02	Continue to manage for warmwater species.
Centre Lake (NL)	Brougham	2KE01	12	Manage for brook trout.
Chain of Lakes 1 & 2 (NL)	Wylie	2KA03	32	Update of survey data and species composition information required.
Charlotte Lake	Brudenell	2KD08	22	Manage for lake trout.
Chateau Lake	Maria	2KA05	32	Update of survey information and species composition required.
Christopher Robin Lake (Wolf)	Maria	2KA05	64	Possible future coldwater management.
Clara Lake (Moose)	Clara	2KA07	32	Stocking and species composition evaluation required.
Claradeer Lake	Clara	2KA07	64	Consider warmwater introduction - bass or pike.
Clear Lake (Claret)	Wylie	2KB05	64	Temperature restriction - no management.
Clear Lake (NL)	Buchanan	2KA01	65	Manage for warmwater species.
Clyde	Blithfield	2KF06	70	Manage for warmwater species.
Colby Lake	Fraser	2KC06	65	Manage for warmwater species.
Coldingham Lake (Green)	Horton	2KC02	07	Manage for warmwater species.
Constant Lake	Grattan	2KE03	77	Manage for warmwater species.

TABLE 4

FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Corry Lake	Wylie	2KA03	67	Manage for warmwater species - stock with musky when available.
Couchain Lake	Burns	2KC02	75	Part of Bonnechere River system - utilize existing fisheries.
Cow Lake (NL)	McKay	2KC06	32	Manage for brook trout.
Crooked Lake	Alice	2KC06	73	Manage for warmwater species.
Crutch Lake	Grattan	2KE04	06	Continue to manage for warmwater species.
Curriers Lake	Burns	2KC02	75	Part of Bonnechere River system - utilize existing fisheries.
Cybulski Lake (Woodshier)	Sherwood	2KD01	02	Manage for warmwater species.
Dam Lake	Radcliffe	2KD08	04	Introduction of adult smallmouth bass from Hartwick Lake.
Deep Lake	Brudenell	2KD08	32	Manage for brook trout.
Deermeadow Lake (Deer)	Clara	2KA07	64	Consider warmwater species introduction.
Demarco Lake (Mud)	Head	2KA04	32	Not suitable for management - depth restriction.
Devon Lake	Head	2KA04	32	Netting survey to establish status of population - stock with brook trout, if necessary.
Diamonds Lake	Radcliffe	2KD06	18	Manage for lake trout. Map spawning beds for future improvement.
Dicks Lake (Edkelly)	Griffith	2KE01	64	Depth and temperature restrictions - baitfish.
Donahue Long Lake	Griffith	2KE03	04	Continue to manage for warmwater species.
Dow Lake (Colton)	Rolph	2KA01	06	Manage for existing warmwater fishery (i.e., bass, pike).
Dropledge Lake	Raglan	2KD01	32	Manage for brook trout.
Drowsy Lake	Wylie	2KB05	64	Marginal coldwater habitat - depth restriction.
Duck Lake	Buchanan	2KA01	64	Manage for baitfish

TABLE 4

FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Dugan Lake (Duggan)	Griffith	2KE06	32	Manage for brook trout.
Dunlop Lake	Head	2KA04	32 (1972)	Perch present - possible reclamation in future.
Edmonds Lake	Ross	2KC05	04	Manage for warmwater species.
Eeyore Lake	Maria	2KA05	24	Splake introduction in 1987.
Elbow Lake	Blithfield	2KE01	64	Temperature restriction.
Eleanor Lake	Brougham	2KE04	32	Continue to manage for brook trout.
Enos Bay	Richards	2KC02	75	Part of the Bonnechere River system - manage for existing species.
Fergusons Lake (Constos)	Blithfield	2KE03	04	Manage for warmwater species.
Findlay Lake	Head	2KA04	84	Rainbow trout introduction in 1984.
Flat Iron lake	Fraser	2KC06	86	Splake introduced - 1985.
Foley Lake	Fraser	2KC02	64	Depth and temperature restrictions - difficult summer access.
French Lake (Colton)	Admaston	2KC02	77	Manage for warmwater species.
Frogharbour Lake	Hagarty	2KC02	64	Depth restrictions.
Garden Lake (Town)	Ross	2KC01	64	Access restrictions.
Gardiner Lake	Clara	2KA06	32	Continue brook trout stocking program.
Garskeys Lake	Brougham	2KE04	02	Manage for warmwater species.
Garvin Lake	Grattan	2KE03	32	Manage for brook trout (access problem).
Gibson Lake	Maria	2KA06	04	Manage for warmwater species.
Gibsons Lake	Ross	2KC01	04	Manage for warmwater species.
Gling Lake (Angler)	Blithfield	2KE01	32	Manage for brook trout.
Godin Lake	Griffith	2KE01	32	Manage for brook trout.
Golden Lake	South Algona	2KC02	15	Survey on spawning population required in 1987.

TABLE 4

FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Gorman Lake	Brudenell	2KC09	68	Manage for warmwater species.
Green Lake	Brougham	2KE01	16	Continue to stock with lake trout (alternate year basis).
Green Lake	Radcliffe	2KD01	73	Continue to manage for warmwater species.
Green Lake (McHale)	Lyndoch	2KE01	32	Manage for brook trout.
Gun Lake (Gunn)	Radcliffe	2KD08	86	Splake introduction in 1985.
Haley Lake	Griffith	2KE01	05	Continue to manage for warmwater species.
Halfway Lake (Long)	Radcliffe	2KD08	79	Splake introduced in 1986.
Hardwood Lake (Genricks)	Raglan	2KD06	02	Manage for warmwater species.
Hardwood Lake (Beaver)	Griffith	2KF04	32	Manage for brook trout.
Hartwick Lake	Brudenell	2KD07	02	Manage for warmwater species.
Harvey Lake	Head	2KA01	64	Reclamation necessary for coldwater species.
Harvey's Shanty Lake	Maria	2KA06	64	Baitfish.
Head Lake	Head	2KA04	32	Continue to manage for brook trout.
Heart Lake	Rolph	2KA01	64	Adult northern pike transfer - 1986/1987 by Mountain River Fish and Game Club.
Heifer Lake	Brougham	2KE04	32	Manage for brook trout.
Hemlock Lake	Richards	2KC06	64	Oxygen and temperature restrictions.
Highland Lake	Sebastopol	2KE06	04	Manage for warmwater species.
Holmes Lake	Brougham	2KE03	32	Manage for brook trout.
Huey Lake	Rolph	2KA01	64	Possible coldwater potential after reclamation.
Hurd Lake	Matawatchan	2KE01	03	Continue to manage for warmwater species.
Irene Lake	Wylie	2KB05	64	Possible introduction of largemouth bass.
Island Lake (Achillea	Burns	2KC02	64	Possible coldwater species introduction.

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FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Jacks Lakes (Jacks Lake 1)	Richards	2KC02	65	Manage for warmwater species.
Jacks Lakes (Jacks Lake 2)	Richards	2KC02	70	Manage for warmwater species.
Jacks Lakes (Jacks Lake 3)	Richards	2KC02	70	Manage for warmwater species.
James Lakes	Rolph	2KA03	67	Continue to manage for warmwater species stock with muskellunge when available.
Jamieson Lake	Blithfield	2KE01	01	Continue to monitor for walleye.
Jeffers Lake	Griffith	2KE04	02	Continue to manage for warmwater species.
Jeffreys Lake (Olmsted)	Ross	2KC05	77	Manage for warmwater species.
Jennings Lake	Head	2KA04	64	Potential rainbow fishery - possible reclamation in future.
Joe Lake	Brougham	2KE01	64	Water chemistry marginal - no management.
Johnny Lake	McKay	2KC06	02	Manage for warmwater species.
Jonsons Lake	North Algona	2KC07	32	Manage for brook trout.
Joyces Lake (Stoughton)		2KE06	64	Potential coldwater habitat, netted 1986, possible reclamation.
Kamaniskeg Lake	Bangor/ Sherwood	2KD01	81	Continue to manage for lake trout monitor for acid rain sensitivity.
Kean Lake (Keane)	Wylie	2KA03	02	Manage for warmwater species.
Kelly Lake	Fraser	2KC06	64	Access restricted - no management.
Kellys Lake (Vanbrugh)	Sebastopol	2KC08	64	Coldwater potential - possible reclamation if access can be guaranteed.
Kennelly Lake	Brougham	2KE01	64	Baitfish
Keystone Lake (NL)	Jones	2KD01	64	Oxygen restriction - no management.
Kretzel Lake (Divazie)	Sherwood	2KC10	65	Manage for warmwater species.

TABLE 4

FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Kulas Lake (Greenan)	Jones	2KD01	71	Investigate access - consider splake introduction.
Lac Du Bois Dur (Black Bay)	Petawawa	2KB01	08	Part of Barron - Ottawa River system - no management at this time.
Lake Clear	Sebastopol	2KC08	80	Manage for lake trout; stocking to begin again in 1987.
Lake Dore	Wilberforce	2KC07	73	Manage for warmwater species.
Lake Hardwood (Bearwood)	Brudenell	2KD07	04	Manage for warmwater species.
Lake 1 (NL)	Westmeath	2KC01	04	Manage for warmwater species.
Leclaire Lake	Brougham	2KE04	04	Manage for warmwater species.
Leidtke Lake	Raglan	2KD06	04	Manage for warmwater species.
Lemke Lake	Alice	2KC01	65	Manage for warmwater species.
Limestone Lake	Brougham	2KE01	87	Manage for splake.
Little Beaver Lake (NL)	Jones	2KI01	32	Manage for brook trout.
Little Black Lake	Blithfield	2KE01	64	Oxygen restrictions - no management.
Little Eneas Lake	Lyndoch	2KD07	04	Manage for warmwater species.
Little Garvin Lake	Griffith	2KE03	32	Access problem (brook trout).
Little Johns Lake	North Algona	2KC07	64	Temperature and oxygen restrictions.
Little Lake	Maria	2KA06	16	Residual lake trout population - possible splake introduction.
Little Marten Lake	Maria	2KA06	64	No management at this time.
Little Tooey Lake (NL)	Brougham	2KE04	32	Manage for brook trout.
Long Lake	Brougham	2KE04	32	Manage for brook trout.
Loon Lake (NL)	Jones	2KD01	32	Manage for brook trout.

TABLE 4

FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
McSourley Lake (Tee)	Head	2KA05	16	Continue to manage for lake trout.
Menet Lake	Head	2KA04	64	Introduce splake after environmental assessment.
Middle Long Lake	Fraser	2KC02	64	Manage for warmwater species.
Mile Lake	Blithfield	2KE01	65	Manage for warmwater species.
Mill Lake (Clear)	Head	2KA04	86	Continue to manage for splake.
Milty Lake	Matawatchan	2KE01	04	Manage for warmwater species.
Mink Lake	Wilberforce	2KC07	15	CFIP Project - Eganville Game and Fish Club - 1985 and 1986.
Minnow Lake (NL)	Blithfield	2KE01	32	Manage for brook trout.
Mishap Lake	Sherwood	2KC02	04	Manage for warmwater species.
Moccasin Lake	Raglan	2KD03	76	Consider splake introduction if required to meet coldwater opportunity targets.
Moffat Lake	Rolph	2KA03	64	Possible splake introduction.
Montserrat Lake	Matawatchan	2KE01	02	Manage for warmwater species.
Moore Lake	Rolph	2KA01	04	Manage for warmwater species.
Morrow Lake	Matawatchan	2KE01	08	Lake trout stocking in 1986 to be monitored - if unsuccessful, splake will be considered.
Mousseau Lake	Maria	2KA06	64	Potential for splake introduction.
Mud Lake (Wilber)	Wilberforce	2KC02	05	Continue to manage for warmwater species.
Mud Lake (Little Hardwood)	Blithfield	2KE01	32	Manage for brook trout.
Mudturtle Lake (Gutzman)	Petawawa	2KB01	64	Possible future reclamation.
Murphys Lake	Brougham	2KE04	32	Manage for brook trout.
Murphys Lake (Arabis)	Burns	2KC02	16	Continue to manage for lake trout.

TABLE 4

FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Lorwall Lake	Brudenell	2KD08	07	Stream improvement project for walleye 1986 - CFIP.
Louies Lake	Brougham	2KE04	32	Manage for brook trout.
Lower Bass Lake (NL)	Buchanan	2KA01	02	Manage for warmwater species.
Lower Bennet Lake (NL)	Ross	2KC01	64	Oxygen and temperature restriction.
Lower Fish Lake	Bagot	2KE01	02	Manage for warmwater species.
Lower Long Lake	North Algona	2KC02	02	Manage for warmwater species.
Lower Twin Lake	Brougham	2KE04	84	Stocked by Renfrew Fish and Game Club (rainbow trout).
Mallard Lake	McKay	2KC06	02	Manage for warmwater species.
Marble Lake (NL)	Brougham	2KE04	32	Manage for brook trout.
Marilyn Lake	Wylie	2KB05	64	Temperature and depth restriction.
Marquardt Lake (NL)	Raglan	2KD03	32	Manage for brook trout.
Martineau Lake	Burns	2KC10	32	Omitted from stocking - depth restrictions.
Marys Lake	Maria	2AK04	64	Manage for warmwater species.
Maunsell Lake	Wylie	2KA03	64	Temperature restriction - no management.
Maves Lake	Alice	2KC06	06	Manage for warmwater species.
Mayhew Lake	Wylie	2KB05	64	Possible largemouth bass introduction.
McCharles Lake	Matawatchan	2KE01	64	Access restricted - potential for rainbow trout.
McCool Lake	Brougham	2KE04	64	Access restriction - no management.
McDonald Lake	Burns	2KC02	32	Manage for brook trout.
McGuire Lake	Burns	2KC10	06	Manage for warmwater species.
McKenna Lake	Head	2KA04	64	Reclamation required before management - past Brook Trout Lake.
McMaster Lake	Jones	2KD01	18	Splake introduction in 1986 - monitor through voluntary creel census.

TABLE 4

FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Muskinonge	Buchanan	2KA01	73	Continue to manage for warmwater species.
Muskrat Lake (Cobden)	Westmeath	2KC05	82	Continue to manage for lake trout and warmwater species (includes smelt).
Norlock Lake	Jones	2KD01	02	Manage for warmwater species.
Norway Lake	Bagot	2KE01	77	Manage for warmwater species.
O'Brien Lake	Griffith	2KE03	64	Possible introduction of rainbow trout.
Oakhill Lake	Brougham	2KE04	84	Manage for rainbow trout.
Oriole Lake	Blithfield	2KE01	84	Manage for rainbow trout.
Ottawa River	Westmeath	2KC01	15	Update of survey data and species composition.
Otter Lake	Head	2KA04	64	Not suitable for management.
Otterson Lake	Wylie	2KA03	67	Manage for warmwater species - stock with Musky when available.
Oval Lake	Maria	2KA04	32	Update of survey data and species composition required.
Owl Lake (Blimkey)	Maria	2KA05	32	Update of survey data and species composition required.
Paddy Lake	Clara	2KA07	64	Chemistry update and netting required.
Parissien Lake (Deer)	Jones	2KD01	02	Manage for warmwater species.
Park Lake (Park Line)	Head	2KB01	32	Continue to manage for brook trout.
Partidge Lake (Partridge)	Sherwood	2KB01	64	Possible introduction of northern pike or bass.
Pat's Lake	Brougham	2KE01	64	Possible stocking of brook trout.
Paugh Lake	Burns	2KC10	78	Lake trout environment readily available but due to under-utilization, is presently being managed for warmwater species.
Peever Lake (Hardwood)	Raglan	2KD06	03	Continue to manage for warmwater species.

TABLE 4

FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Perch Lake	Buchanan	2KA01	64	No public access - AECL property.
Perch Lake	Head	2KA04	32	Continue to manage for brook trout.
Pershik Lake (Sherwood)	Sherwood	2KD08	70	Manage for warmwater species.
Petznick Lake (Kidds)	Alice	2KC07	70	Continue to manage for warmwater species.
Piglet Lake	Maria	2KA05	24	Update of survey data and species composition required.
Pooh Lake	Maria	2KA05	08	Update of survey data and species composition required.
Porter Lake (Upper Bennet)	Westmeath	2KC01	64	Access restricted - potential for brook trout.
Puffball Lake	Maria	2KA05	64	Update of survey data and species composition required.
Raglan White Lake (Raglan)	Raglan	2KD01	02	Manage for warmwater species.
Rat Lake	Head	2KA04	64	Unsuitable for coldwater species.
Rattail Lake	Clara	2KA06	64	Depth restriction - warmwater species management.
Rattrays Lake	North Algona	2KC02	65	Manage for warmwater species.
Redpine Lake (Gould's Pond)	Fraser	2KC06	32	Manage for brook trout.
Reid Lake	Admaston	2KC02	70	Continue to manage for warmwater species.
Rock Lake	Lyndoch	2KD07	32	Reclamation in 1987 (CFIP).
Rocko Lake (Jocko)	Burns	2KC02	69	Up-to-date survey required. Possible introduction of coldwater species.
Roney Lake (Ronny)	Head	2KA01	70	Up-to-date survey required.
Round Lake	Richards	2KC02	83	CFIP - walleye spawning bed improvements (1987).

TABLE 4

FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Salmond Lake (Salmon)	Matawatchan	2KE05	32	Manage for brook trout.
Samally Lake (Whelan)	Admaston	2KC02	06	Manage for warmwater species.
Sand Lake	McKay	2KC06	65	Manage for warmwater species.
Scully Lake	Brougham	2KE01	02	Investigate reclamation - previously stocked with brook trout.
Serpent Lake	Lyndoch	2KD01	32	Manage for brook trout.
Shanty Lake	Raglan	2KD06	84	Manage for rainbow trout.
Shavings Lake (Shavens)	Sebastopol	2KE06	86	Splake introduction in 1986.
Shiner Lake	Brougham	2KE03	32	Manage for brook trout.
Sicards Bay	Hagarty	2KC02	73	Part of Bonnechere River system - manage for existing fishery.
Silver Lake (Zadow)	South Algona	2KC09	64	Temperature restriction - manage for warmwater species.
Smith Lake	Head	2KA04	64	Possible splake introduction - further information required. Previously stocked with brook trout.
Soldier Lake	Head	2KA04	64	Future reclamation and reintroduction of brook trout.
Spectacle Lakes (Wolfsden)	Jones	2KD01	84	Manage for rainbow trout.
Square Bay	Fraser	2KC02	70	Part of the Bonnechere River system - manage for existing species.
St. Pierre Lake	Blithfield	2KE03	32	Manage for brook trout.
Stans Lake	Maria	2KA05	64	Update of survey information required.
Steer Lake	Brougham	2KE04	64	Potential for coldwater species.
Stevenson Lake	Richards	2KC02	07	Continue to manage for warmwater species.
Stevenson Lake (NL)	Westmeath	2KC01	65	Continue to manage for warmwater species.

TABLE 4

FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Stone Lake (NL)	Ross	2KC01	68	Manage for warmwater species.
Stones Lake	Bagot	2KE01	06	Manage for warmwater species.
Stoney Lake (Raft)	Sherwood	2KD08		Manage for warmwater species.
Strains Lake (Strain)	Griffith	2KE01	64	Baitfish.
Stringers Lake (Beaudrie)	Raglan	2KD03	32	Manage for brook trout.
Strong Lake	Matawatchan	2KE01	32	Manage for brook trout.
Stubinski Lake	Brougham	2KE01	32	Reclaimed 1986, stock with brook trout - 1987.
Sturgeon Lake (Chalk)	Buchanan	2KA01	15	AECL property - access restricted.
Sullivan Lake	Rolph	2KA01	36	Restricted access.
Supple Lake	Alice	2KC06	06	Manage for warmwater species.
Surprise Lake	Sherwood	2KC10	02	Manage for warmwater species.
Survey	McKay	2KB03	04	Temperature and oxygen restrictions - baitfish.
Sweeks Pond (NL)	Richards	2KC02	64	Temperature and oxygen restrictions - baitfish.
Sweezy Lake	Head	2KA04	32	Updated survey required - check for spiny-rayed species.
Tee Lake	Rolph	2KA01	01	Adult walleye transfer and stream rehabilitation project in progress.
Thomas Lake	Wylie	2KA03	64	Baitfish.
Tigger Lake	Maria	2KA05	64	Updated survey information required. Previously stocked with brook trout.
Tooeys Lake (Tooey)	Brougham	2KE04	32	Manage for brook trout; stock on annual basis.
Trout Lake	Head	2KA04	16	Continue to manage for lake trout.

TABLE 4

FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Trout Lake	Jones	2KD01	26	Spawning beds to be inspected and mapped - chemistry update required. Manage for lake trout.
Tucker Lake	Wylie	2KA02	65	Manage for warmwater species.
Turcotte Lake (NL)	McKay	2KC06	64	Manage for warmwater species.
Turpins Bay	Hagarty	2KC02		
Turtle Lake	Lyndoch	2KD01	32	Manage for brook trout.
Upper Bass Lake (NL)	Buchanan	2KA01	65	Manage for warmwater species.
Upper Fish Lake	Bagot	2KE01	02	Manage for warmwater species.
Upper Long Lake	Fraser	2KC02	64	Manage for warmwater species.
Upper Twin Lake	Brougham	2KE04	32	Manage for brook trout. Rotate stocking with Renfrew Fish and Game Club.
Valiant Lake	Maria	2KA06	LT	Continue to manage for lake trout.
Victoria Lakes 3 (NL)	Sherwood	2KD01	65	Manage for warmwater species.
Wabun Lake	Brougham	2KE01	84	Rainbow trout introduction in 1984 - some stocking carried out by Calabogie and Arnprior Fish and Game Clubs.
Wadsworth Lake	Radcliffe	2KD08	79	Continue to manage for lake trout.
Waites Lake (Waits)	Ross	2KC01	32	No longer accessible.
Walker Lake	Burns	2KC02	32	Manage for brook trout.
Waterloo Lake	Clara	2KA06	56	Continue lake trout stocking program.
Wee Trout Lake	McKay	2KC06	32	Manage for brook trout.
Wendigo Lake	Clara	2KB06	16	Continue stocking lake trout.

TABLE 4

FISHERIES MANAGEMENT DESIGNATION FOR LAKES IN PEMBROKE DISTRICT

LAKE NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
White Mountain Bay (White Mountain)	Burns	2KC02	75	Part of the Bonnechere River system. Manage the existing fishery.
Wilsons Bay	North Algona	2KC02	65	Part of the Bonnechere River system. Manage the existing fishery.
Wolf Lake (Alexander)	Jones	2KD01	65	Manage for warmwater species.
Wormy Lake (NL)	McKay	2KC06	32	Manage for brook trout.
Wylie Lake	Head	2KA01	32	Update of survey data and species composition required (perch present?).
Wylie Lake (Loon)	Wylie	2KB05	64	Possible splake introduction.
Yantha Lake	Sherwood	2KC10	64	Manage for warmwater species.
Young	Wylie	2KA02	64	Manage for warmwater species.
Yukes Lake	Brudenell	2KD07	06	Manage for warmwater species.
Zelneys Lake (Zilney)	Sherwood	2KD01	65	Manage for warmwater species.

APPENDIX 2 Fisheries Management Designation for Rivers/Streams in Pembroke District

As with some of the larger warmwater lakes of the district, not all of the following rivers/streams have been surveyed. Until such time that all streams have been surveyed, management will be based on the best available information.

Some rivers and streams remain uncoded as they may contain stretches which support different populations of fish. In some cases, several lakes may be part of the river system (e.g. Golden, Round Lakes) as well. If required, information is available for specific sections of the river or stream.

TABLE 5

FISHERIES MANAGEMENT DESIGNATION FOR RIVERS/STREAMS IN PEMBROKE DISTRICT

RIVER/STREAM NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Barron River	McKay	2KB-02	--	Manage existing warmwater fishery.
Bissett Creek	Maria	2KA-06	--	Survey information required.
Black Donald Creek	Brougham	2KE-04	32	Some stretches of good coldwater habitat.
Bonnechere River	Horton	2KC-02	--	Musky, bass, pickerel, pike fishery - manage for warmwater species.
Byers Creek	Hagarty	2KC-02	32	Coldwater habitat - annual brook trout stocking.
Carson Creek	Sherwood	2KD-01	64	No management.
Chalk River	Wylie	2KA-03	--	Survey information required.
Colton Creek	Matawatchan	2KE-01	64	Habitat improvement required.
Constan Creek	Grattan	2KE-03	36	No coldwater management.
Crozier Creek	Admaston	2KC-02	64	Habitat loss - no management.
Culls Creek	Admaston	2KC-02	64	Manage for warmwater species.
Diamond Lake Creek	Radcliffe	2KD-01	32	Stream inventory required.
Foresters Falls Creek	Ross	2KC-01	32	Stock small numbers of larger brook trout.
Gardez Pieds Creek	Fraser	2KC-06	32	Stream inventory required.
Grant Creek	Maria	2KA-05	--	Survey information required.
Hales Creek	Alice	2KC-01	04	Poor habitat for coldwater.
Highland Creek	Griffith	2KE-06	32	Natural reproduction present, stream improvement project required.

TABLE 5

FISHERIES MANAGEMENT DESIGNATION FOR RIVERS/STREAMS IN PEMBROKE DISTRICT

RIVER/STREAM NAME	TOWNSHIP	WATERSHED	FISH COMMUNITY	COMMENTS
Hyndford Creek	Grattan	2KC-02	32	Access to be defined.
Hurds Creek	Grattan	2KC-08	04	Manage for warmwater species.
Indian River	Fraser/Alice	2KC-06	--	Manage for warmwater species.
Kasaboskie Creek	Horton	2KC-02	64	No management - pollution problems.
Kennedy Creek	Rolph	2KA-01	64	Warmwater species management.
Madawaska River		2KE-01	--	Warmwater fishery - protect all designated walleye spawning areas by sanctuary. Provides extremely important walleye fishery both for angling and egg collection.
McKay Creek	McKay	2KC-06	64	Manage for warmwater species.
Muskrat River	Westmeath	2KC-05	--	Manage for warmwater species.
Ottawa River		2KC-01	15	Survey and harvest information required.
Petawawa River	Petawawa	2KB-01	--	Manage for warmwater species.
Rockingham Creek	Brudenell	2KD-08	32	Stream inventory required.
Sherwood River	Sherwood	2KC-10	32	Manage for brook trout.
Wylie Creek	Wylie	2KA-03	64	Stream inventory required.

APPENDIX 3 **A Summary of Public Response to the Background Information and Optional Management Strategies and Tactics Document, and the Draft Fisheries Management Plan for Pembroke District**

The public was invited to review and comment on the problems and issues facing District fisheries, to express opinions on management strategies and tactics and to evaluate and comment on selected management directions. The following is a summary of the results of the first and second phases of public review leading to the preparation of the Final Plan.

Efforts to Obtain Public Involvement

Throughout the planning process for the Fisheries Management Plan, the District undertook many efforts to accommodate the input and concerns of the general public, interest groups, and other government agencies.

Two Open Houses were held in the District Office: the first, to review the Background Information and Optional Management Strategies and Tactics document, and the second, to review the Draft Plan. In addition, District staff held meetings with interest groups and individuals wishing to express specific concerns.

A wide variety of communication techniques were used to create interest and to secure public participation in the development of this Plan. These included:

- Over 100 letters of invitation to individuals, municipalities, sportsmen's groups, cottager's associations and interest groups.
- District news releases to seven newspapers in the County two weeks prior to the Open House.
- Interview with the Ottawa Citizen newspaper two weeks prior to the Open House.
- Interview with the local CHRO radio and TV station (coverage on weekend of the Open House).
- Distribution of 1,000 tabloids throughout the County to various outfitters, commercial outlets etc.
- Newspaper advertisements in 7 newspapers in the County on the Wednesday prior to the Open House.
- Insertion on local CHRO cablevision channel (public information) to run for two weeks prior to the Open House, plus community event broadcasts on local CHRO TV and radio stations for one week prior to Open House.

The Open Houses for the Background Information document and Draft Management Plan were held August 15-16, 1986 and February 14-15, 1987 respectively. In total, approximately 125 Background documents and 50 Draft Plan documents (with questionnaires) were distributed.

Public Participation

A total of 35 people attended the first Open House while 15 people attended the second. Respondents were asked to comment on all aspects of the documents including identified problems and proposed strategies and tactics.

Public response was very supportive. Although comments were diverse in nature, most were favourable and stressed the following points (not priorized):

.Need for more fisheries enforcement - additional Conservation Officers were necessary

Enforcement staff currently devote approximately 30% of their time to fisheries enforcement. It is anticipated that with the implementation of resident sport fishing licences, beginning in 1987, more time will ultimately be spent on fisheries enforcement.

.Protection of coldwater fisheries

Where possible, the coldwater fishery of the district will be protected by decreasing fishing pressure, regulating harvest, reducing illegal harvest, regulating fishing derbies, and maintaining a viable stocking program.

.Encourage more public awareness, education and actual involvement

Encouraging fisheries enhancement projects through CFIP, providing regular extension services, or presenting various fisheries workshops will assist in increasing public awareness and involvement.

.Encourage recognition, protection, and rehabilitation of the District's warmwater fishery

Warmwater fisheries currently provide the largest portion of the existing and potential fishery resource in the district. Implementation of various tactics to address this concern include: increasing public awareness and involvement (CFIP), creation and protection of habitat, reducing illegal harvest, and increasing access.

.Tighten inspection and licence issuing system of the bait fish industry

To ensure proper use of bait fish, existing regulations pertaining to the catching, storage, and sale of bait fish will be enforced.

.Promote the expansion of the scientific knowledge base

The District will expand its fisheries assessment information through angler surveys, creel census, innovative use of fisheries regulations, etc. to better identify problem areas.

.Continue to monitor for contaminants

The District will maintain liaison with the Ministry of the Environment to monitor contaminant levels of sport fish in selected lakes.

Summaries of public comment received at both open houses are available for viewing at the Pembroke District office.

A thorough review of all public input was considered in the preparation of the Fisheries Management Plan.

GLOSSARY

The following definitions apply to this Plan only:

Allowable Yield

The yield by species as a result of partitioning the potential yield. The sum of allowable yields by species will not necessarily add up to the potential yield.

Angler Day

While it is usually accepted that any amount of effort in a day constitutes one angler day, for the purposes of converting angler hours to angler days, four hours will be used.

Artificial Fishery

A fishery which is maintained entirely through plantings of hatchery reared fish in order to provide angling opportunities. The native species is either depleted or no longer present.

Bait Fish

Any fish that are legally harvested by the commercial bait fish industry including any member of the minnow family Cyprinidae, except carp and goldfish; the mudminnow family Umbridae; the stickleback family Gasterosteidae; the trout-perch family Percopsidae; the sculpin family Cottidae; the genus Leucichthys of the whitefish family Coregonidae and the darter sub-family Etheostomatinae.

C.F.I.P.

Community Fisheries Involvement Projects are management projects which endeavour to improve and enhance local fisheries or supply additional angling opportunities to the public. The funds for the projects are supplied by the Ministry of Natural Resources, while the work is done by volunteers. Funding is available to any interest group that has a project which qualifies for assistance.

Coarse Fish

Includes common white sucker, catfish, bullhead and smelt.

Coldwater Lakes

Those lakes having physical characteristics which would support species such as trout and whitefish.

Coldwater Streams

Those streams having physical characteristics which would support trout.

Commercial Fish

Any fish that are legally harvested by the commercial fishing industry.

Critical Fish Habitat

Any fish habitat required for the maintenance of a healthy fish population or otherwise identified as essential to the achievement of the Ministry's fishery program objectives.

Current Fisheries Yield

The current fisheries yield expresses the existing yield of the fishery resource given the present circumstances.

Fish Community

A combination of different fish

species living and interacting in the same body of water.

Goal

A general purpose to which the Ministry aspires.

Management

The judicious use of means to achieve ends. Management may have various levels of intensity.

Non-Native Fish Species

A fish species which did not originally inhabit a waterbody but was introduced by man.

Non-Resident Angler

An angler whose principal residence is outside of Ontario.

Northern Ontario

Northwestern and Northeastern Planning Regions include the following Districts: Dryden, Fort Frances, Ignace, Kenora, Red Lake, Sioux Lookout, Atikokan, Geraldton, Nipigon, Terrace Bay, Thunder Bay, Blind River, Espanola, North Bay, Sault Ste. Marie, Sudbury, Temagami, Wawa, Chapleau, Cochrane, Gogama, Hearst, Kapuskasing, Kirkland Lake, Moosonee, and Timmins.

Objective

A quantifiable and attainable end, which the Ministry's efforts are intended to accomplish.

Opportunity

A measure of recreation supply which is used to describe the number of times a resource or facility can be used (occasions of use) in a given time period. For planning purposes an opportunity is considered to average four hours in length.

Panfish

Includes yellow perch, rock bass and pumpkinseed.

Planning Area

The area for which a planning process is carried out, and for which a resource management plan is prepared.

Policy

The decision concerning the objectives to be achieved and the means of achieving them. For resource management planning, we are mainly concerned with the objectives, targets, and strategies.

Potential Yield

The amount of fish flesh that can be removed from the water on a sustained basis.

Projected Demand

The estimated demand which will be placed on the fishery resource by the year 2000, based on a projected 15% increase in population.

Rehabilitation

This term may be applied to both fish populations and fisheries habitat. In both instances, rehabilitation denotes efforts to enhance or restore a degraded or stressed situation.

Resident Angler

An angler whose principal residence is in Ontario. A <u>local</u> resident angler would be one who can fish an

area on a day-use basis, i.e., travel to the area, fish, and return home on the same day.

Southern Ontario

Southern Planning Region includes the following Districts: Parry Sound, Bracebridge, Minden, Algonquin Park, Bancroft, Pembroke, Owen Sound, Wingham, Chatham, Simcoe, Aylmer, Huronia, Lindsay, Maple, Cambridge, Niagara, Tweed, Napanee, Carleton Place, Brockville, and Cornwall.

Sport Fish

Top predator fish species which are sought and may legally be taken by angling. In Pembroke District this usually includes fish from the families: Salmonidae (Trout), Percidae (Walleye), Esocidae (Pike and Muskellunge) and Centrarchidae (Bass).

Strategic Planning for Ontario Fisheries (S.P.O.F.)

Task force (in the form of working groups) established to assess the status of Ontario fisheries and to recommend courses of action or strategies for the future.

Strategy

Planned actions or measures to achieve a desired end.

Resource Management

The wise use of a particular resource such as fish to achieve a specific end.

Tactic

A method devised to achieve one or more strategies.

Target

A quantified end to be achieved or completed by a specific date.

Warmwater Lakes

Those lakes other than coldwater lakes.

Warmwater Streams

Those streams other than coldwater streams.

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